



LEESBURG
The Lakefront City

City of Leesburg

**GROWTH MANAGEMENT PLAN
SANITARY SEWER ELEMENT**

Ordinance #03-44

Exhibit E

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CHAPTER IV SANITARY SEWER ELEMENT

A. INTRODUCTION

The City of Leesburg currently owns, operates and maintains a central sanitary sewer system. The City's collection and treatment system provides service to both residential and non-residential users. The City has historically been able to provide adequate sanitary sewer service to meet not only the demand within the City's boundaries, but also within the surrounding unincorporated areas of Lake County and extending to Okahumpka and the Royal Highlands.

Currently, the City's wastewater facilities have little or no effect on adjacent natural resources. This is due to the "limited discharge" approach that is currently being achieved by the City's wastewater program. Impacts on natural resources must be considered for the overall effects of improvements achieved by not only the City of Leesburg, but also for the sum of improvements achieved by all treatment facilities in the surrounding areas. This information is being gathered on a continuing basis by staffs of the St. Johns River Water Management District (SJRWMD) and the Florida Department of Environmental Protection (FDEP), and results to date have shown significant positive results in regard to reduction of contribution of nutrients to surface waters.

On July 23, 2001, a Water and Wastewater Rate Study for the City of Leesburg was initiated. The primary objective of the study was to identify the appropriate impact fees for sanitary sewer and potable water users.

B. SANITARY SEWER EXISTING CONDITIONS DATA

1. Public Sanitary Sewer Facilities Inventory

The City's central sanitary sewer system is comprised of two wastewater treatment plants (WWTP), 104 lift stations, 40 miles of 20" forcemain, 260 miles of forcemain ranging in size from 6 to 12 inches, and 30 miles of gravity sewer mains of various sizes.

Additionally, the City's Turnpike WWTP was designed with the intent to provide reclaimed water service to reduce the amount of potable water utilized for irrigation purposes. The reclaimed water distribution system is presently in design phase. The City has a developer's agreement in place with the Legacy development to provide reclaimed water for the development.

a. Operational Responsibility

The City of Leesburg Environmental Services Department is responsible for the operations and maintenance of the central sanitary sewer and reclaimed water systems within the City's Service Area. See Map IV-1.

b. Service Area and Predominant Users

As mentioned previously, the City currently operates two WWTP's, the Canal Street Wastewater Treatment Plant and the Turnpike Wastewater Treatment Plant. The Canal Street WWTP generally serves any development north of Main Street and east to the limits of the City's service area. The Turnpike WWTP serves all development to the south of Main Street and within the limits of the City's service area.

There are numerous properties outside the City limits, which are served by the City's wastewater utility. These properties lie within areas of unincorporated Lake County. Additionally, large areas of undeveloped rural lands within unincorporated Lake County fall under the service area of the City of Leesburg but outside the available sewer service area. The limits of the City's service area are shown on Map IV-1.

As of November 2003, the City is providing service to 10,781 residential connections and 1,994 non-residential connections, for a total of 12,775 sanitary sewer connections. Of the residential connections, 2,891 are services outside of the City limits. Of the non-residential connections, 50 are services located outside of the City limits. Table IV-2 gives a breakdown of the City's wastewater connections. Of the total sanitary sewer service connections to the City's central system, 76.9% are within the City limits and the remaining 23.1% are located outside the City.

c. Sanitary Sewer Facility Design and Capacity

As previously stated, the City operates two WWTP's. The Canal Street WWTP uses an extended aeration activated sludge treatment process. The Turnpike WWTP is characterized as a sequence batch reactor plant. Both of the City's WWTP's currently employ sprayfield irrigation as the means of effluent disposal and meet Florida's "no discharge" requirements.

(1) Canal Street Wastewater Treatment Plant

The Canal Street WWTP is located north of U.S. 441, east of Canal Street on a 17.5-acre parcel at 608 Canal Street. The location of this WWTP and the geographic service area for the plant are shown on Map IV-2. The Canal Street WWTP is classified as a Type 2B, Class 3 reliability facility with a capacity of 3.5 million gallons per day (MGD). The current operating demand on the facility is 2.2 MGD. Therefore, the facility is operating at approximately sixty-three percent (63%) of its rated capacity. The plant provides primary treatment via extended aeration, clarification, chlorination and aerobic digestion of sludge. This process produces a secondary effluent which is disposed of by sprayfield irrigation. During heavy rain events, the groundwater from the North sprayfield discharges to one of the two (2) FDEP permitted surface water outfalls into the Okahumpka Swamp. The effluent discharged to these outfalls when combined with the effluent discharged from the South sprayfield cannot exceed the combined average daily flow of 0.57 MGD on an annual basis. The facility was constructed in

1955 and has undergone significant upgrades in 1966 and again in 1979. The City has recently, retained Boyle Engineering to evaluate the facility and provide recommendations for proposed improvements that include upgrading the treatment capabilities of this facility to advanced treatment (public access reclaimed water standards). It is anticipated that these improvements should allow the facility to meet demand through the next 20-years. The final design of planned improvements is scheduled to be completed in 2004 and the construction of planned improvements is scheduled to be completed in 2006. The actual average daily flows for the years 2000 through 2003, and the flow projections for this ten-year planning period (2004 through 2013) are indicated in Table IV-3.

(2) Turnpike Wastewater Treatment Plant

The Turnpike WWTP is located south of S.R. 470 and north of the Florida Turnpike at 1600 CR 470. The location of this WWTP and the geographic service area for the plant are shown on Map IV-2. The Turnpike WWTP is classified as a Type 2B, Class 3 reliability facility with a design capacity of 4.5 MGD but only a permitted capacity of 3.0 MGD. The current demand on this facility is 1.0 MGD. Therefore, this facility is operating at approximately one-fifth of its design capacity. Construction on this facility was completed in November of 2000. This facility provides primary treatment utilizing sequential batch reaction, clarification, chlorination and aerobic digestion of sludge. Again, this process produces a secondary effluent which is disposed of by sprayfield irrigation. During heavy rain events, the groundwater from the South sprayfield discharges to one (1) FDEP permitted surface water outfall into the Okahumpka Swamp located north of CR 470. The discharge to this effluent outfall when combined with the effluent discharged from the North sprayfield cannot exceed the combined average daily flow of 0.57 MGD on an annual basis. This facility should meet demand through the next 10 years without requiring improvements. Increases in population and development within the surrounding areas will dictate the requirement for and timing of expansions to the facility. At present, the facility has the capacity to provide service through 2006. A summary of the WWTP facilities is provided in Table IV-1. As this facility has only been operational a short time, the current daily flow (1.0 MGD) is more indicative of the current demand on the facility rather than the average flows over the past year. Data of the recorded flows show a gradual increase in the volume of wastewater to the plant. This flow is expected to steadily increase as developments planned for the south service area in this 10-year planning period are constructed and connected to the Turnpike WWTP.

(3) Public Wastewater Collection System and Lift Stations

Pursuant to Chapter 9J-5.003, Florida Administrative Code (F.A.C), the following definitions are used for assigning classifications for sewer collection systems:

- “Sanitary Sewer Interceptor” means a sewage conduit that connects directly to, and transmits sewage to, a treatment plant.
- “Sanitary Sewer Trunk Main” means a sewage conduit that connects directly to, and transmits sewage to, an interceptor.

The existing wastewater collection system provides service to approximately ninety-seven percent (97%) of the City’s households. The remainder of City’s residents utilize septic systems for wastewater treatment. Most of the homes that are utilizing septic tanks are located within unincorporated Lake County and in low lying areas within the City that do not have central sewer available.

The City currently operates 104 lift stations. There are four interceptor lift stations within the service area for the Canal Street WWTP. The Turnpike WWTP also has four interceptor lift stations within its service area.

(4) Public Effluent Disposal

Both the Canal Street and Turnpike WWTP’s meet the Florida “no discharge” requirements as defined in FDEP 62-610.200(41). The City’s land application system consists of a North and South Land Treatment Site. The North site consists of 9 gunsets with a total of 83 guns for effluent disposal and 3 permitted sludge disposal sites covering 315 acres. The South site consists of 16 gunsets with a total of 140 guns for effluent disposal and 2 permitted sludge disposal sites covering 87 acres. The City is in the process of establishing a reclaimed water system and has a developer’s agreement to provide effluent disposal as irrigation for the Legacy development. Additionally, the city is planning to provide effluent disposal as irrigation (reclaimed water) for the planned Arlington Ridge development. The city is planning to construct the reclaimed water transmission main to the legacy and Arlington Ridge developments in 2004. The reclaimed transmission main will be constructed using 16-inch-diameter PVC pipe, starting at the Turnpike WWTP, and terminating at the Legacy development. In 2006, the city is planning to completed construction improvements associated with upgrading Canal Street WWTP treatment capabilities to advanced treatment capabilities (public access reclaimed water standards). Accordingly, in 2004 the city is planning to construct reclaimed water transmission main and service lines along S.R. 500 (from Canal Street to College Drive) to connect large irrigation water accounts/users to the reclaimed water system served by Canal Street WWTP, when reclaimed water resource becomes available (in late 2006). A majority of the needed reclaimed transmission system to

connect the large irrigation customers located in the city center is already available, in the form of current (existing) treated wastewater effluent transmission mains. Only minor reclaimed transmission service lines will be required to be constructed to connect city center large irrigation accounts to the Canal Street WWTP reclaimed water system.

The City maintains a groundwater-monitoring program in accordance with the requirements of the City's FDEP permit. This program requires quarterly monitoring of wells and submission of the reports to FDEP. Monitoring protocol is in accordance with all FDEP requirements as stated in the F.A.C. Both the North and South Land Treatment Sites contain fifteen (15) monitoring wells. No groundwater contamination has been reported.

(5) Reclaimed Water System

The reuse irrigation method of reclaimed wastewater disposal is presently encouraged by the FDEP. The broad category of reuse of reclaimed wastewater may include such uses as agricultural irrigation, landscape irrigation, make up water for industrial cooling water make up and other industrial uses.

Because of existing conditions in the Leesburg area, the City has embraced the concept of reuse, in association with the existing land application methods, as the best method to provide for future effluent disposal capacity. The benefits of a reuse program include:

- 1) Cost efficiencies for wastewater customers.
- 2) Minimize the need to expand spray site operations so that the City can make more efficient use of land area for development activities.
- 3) Promotion of reuse water for irrigation purposes rather than use of potable water for irrigation.
- 4) Support of State and Regional goals and policies directed toward water conservation, surface water quality protection, and efficient use of land resources.

The City is currently proposing the operation of a reclaimed water program. The City's location of planned reclaimed water customers in the central/east and south reuse service areas is indicated in Maps IV-3 and IV-4, respectively. The total design capacity of the current reclaimed water system is currently 4.5 MGD. When facility upgrades are completed in 2006 at Canal Street WWTP, the city's total reclaimed water design capabilities will be 8.0 MGD.

2. Private Sanitary Sewer Facilities Design

a. Septic Tank Suitability

The majority of City households are served by the central wastewater system. In addition, all commercial and industrial land uses within the City limits are served by the City's wastewater system.

New development within the City limits is required to connect to the central wastewater system where available. However, in the past several single-family developments have been permitted for septic systems. The total number of single-family homes located within the City limits utilizing septic systems for wastewater disposal is not known. However, this number represents only a small percentage of the total, approximately 3%. In general, septic systems are not the most efficient means of wastewater disposal for urban development. Limitations of existing soils, intensive maintenance requirements, soil reclamation and/or special designs would limit the effectiveness of septic systems as a means of septic service in the Leesburg area.

C. SANITARY SEWER FACILITY NEEDS ANALYSIS

1. Sanitary Sewer Capacity Surpluses and Deficiencies

a. Existing Demand Surpluses and Deficiencies

Demand and level of service can be determined by an analysis of plant flows, billed water, number of customers, and population served. The City's adopted treatment level of service (LOS) is 251 gallons per day per capita.

The City has anticipated a lack of sludge application fields for sludge disposal and as such has purchased 700 acres of land for this purpose. It is anticipated that the additional sludge fields, along with an operating reclaimed water system will provide for effluent disposal through the year 2020.

b. Future Demand Capacity

The City's concurrency management requires an assessment of available capacity at the time of development approval. Based upon an assessment of approved projects which will impact the system in the future, the City has estimated that the average daily demand on sewer treatment capacity by years 2008 and 2013 will be 4.26 MGD and 5.23 MGD, respectively. Therefore, the available permitted sewer capacity for new project impacts is approximately 3.74 MGD and 2.77 MGD, respectively for years 2008 and 2013.

Presently, the City services numerous customers located outside the City limits within unincorporated Lake County. The City is currently expanding its service to the south to properties along the U.S. 27 corridor. In addition, the City is also

expanding to the east to service properties surrounding the Lake Square Mall. The City anticipates that its greatest growth of development will occur within the southern portion of its service area.

Future demand was forecast based upon population projections and the actual per capita usage of 111.75 gpcpd usage for sanitary sewer, as calculated over the 2000 through 2003 period and population estimated based on 2000 Census data. The sewer demand was projected for the years 2004 through 2013. By 2008, the demand is projected to be 4.26 MGD, increasing to 5.23 MGD by the year 2013. Since the maximum combined design capacity of both of the wastewater treatment plants is 8.0 MGD, the two plants will have sufficient capacity to meet the demands for the long term (10-year) planning horizon.

2. Performance and Condition of Existing Facilities

The City's central sanitary sewer collection/transmission system is generally in fair condition and adequately meeting the demand of its users. The system is approximately 40 years old and was primarily constructed using clay pipe. As a result there is a high rate of inflow/infiltration (I/I) into the system. However, the city has been addressing I&I issue by upgrading lift station wet wells and manholes with fiberglass liner material and/or chemical/water-resistant surface coating materials. These I&I improvements are performed on a yearly basis, in accordance with the 5-year schedule if capital improvements identified in the Capital Improvements Element.

a. Wastewater Treatment Plants

The Canal Street WWTP was rehabilitated in 1966 and 1979. Construction of the Turnpike WWTP was recently completed in November of 2000. Both plants are Type 2B, Class 3 reliability facilities. There is no foreseeable need to perform upgrades to the Turnpike facility during the 10-year (2013) planning horizon unless unanticipated population growth is realized. Boyle Engineering is currently evaluating the Canal Street facility for upgrades and replacement requirements that include upgrading the treatment capabilities of this facility to advanced treatment (public access reclaimed water standards). The final design of planned improvements is scheduled to be completed in 2004 and the construction of planned improvements is scheduled to be completed in 2006.

b. Collection System Performance

A gravity system defines the boundaries of the existing wastewater service area. As with other systems, the type of construction materials used is representative of the age of the system. The majority of the existing gravity collection system was constructed 40 years ago using primarily clay pipe. Newer developments in the service area are served primarily by PVC pipe. The age and condition of the existing clay system is assumed to contribute a large percentage of the inflow/infiltration

(I/I) currently discharging into the gravity system. During periods of heavy rainfall and high groundwater tables, the amount of I/I into the system can be significant. The City has committed to reducing I/I through a systematic I/I reduction program and the purchase of specialized equipment for repairing the lines in the system. Additionally, the City utilizes the services contracted to employ a sonar detection system which locates leaks within the sewer system.

As stated above, the City is in the process of implementing its established infiltration/inflow (I/I) program to assess I/I in the City's collection system and to identify and prioritize repairs and maintenance. Most minor repairs are made by either applying fiberglass liners and/or impervious coating materials, or grout internally, or by means of a pipe relining approach. More major repairs are accomplished by the City's "point repair" procedures, whereby short sections of collection line are replaced on an as needed basis. In extreme cases of older, badly deteriorated gravity lines, it is sometimes more cost effective to replace much longer sections of sewer pipe, and in these cases priorities for available funding are established and funds budgeted on an as needed basis.

Given the topography of the Leesburg area, the gravity system within each lift station service area (LSSA) is assumed to be lateral in nature and adequate for service, except for routine repair and replacement, throughout the planning horizon. Lift stations are typically depreciated on a twenty (20) year schedule.

3. Sanitary Sewer Facility Replacement, Expansion and New Facility Siting

To meet future demand, a list of major capital improvements is presented and prioritized in the Capital Improvements Element for sanitary sewer facilities. The majority of these improvements are necessary to eliminate existing deficiencies, provide main line extensions to new wastewater customers, or to implement expansion of the reclaimed water system.

As stated above, in 2006 the city is planning to completed construction improvements associated with upgrading facility treatment capabilities of the Canal Street WWTP to advanced treatment capabilities (public access reclaimed water standards). In support of this facility upgrade, in 2004 the city is planning to construct reclaimed water transmission main and service lines along S.R. 500 (from Canal Street to College Drive) to connect large irrigation water accounts/users to the reclaimed water system served by Canal Street WWTP, when reclaimed water resource becomes available (in late 2006). A majority of the needed reclaimed transmission system to connect the large irrigation customers located in the city center is already available, in the form of current (existing) treated wastewater effluent transmission mains. Only minor reclaimed transmission service lines will be required to be constructed to connect city center large irrigation accounts to the Canal Street WWTP reclaimed water system. As previously stated, the city is also planning to provide reclaimed water (for irrigation purposes) for the planned Arlington Ridge development and current Legacy development. The city is planning to construct the reclaimed water transmission

main to these two developments in 2004. The reclaimed transmission main will be constructed from 16-inch-diameter PVC pipe, starting at the Turnpike WWTP, and terminate at the Legacy development. The locations of planned reclaimed water usage for the central/east service area and south service area is provided in Maps IV-3 and IV-4, respectively. The City is current reclaimed water implementation plan is as follows:

- Perform engineering design services in 2004 to upgrade Canal Street WWTP treatment capabilities to reclaimed water treatment standards;
- Begin construction activities in 2005 associated with upgrading the Canal Street WWF to advanced treatment (public access water reclamation) standards;
- Begin construction of 16-inch reclaimed water transmission main in 2004, connecting the Turnpike WWTP to the Legacy development residential and commercial irrigation systems and to the planned Arlington Ridge development golf course, to provide reclaimed water resource to customers in this area;
- Begin construction of needed reclaimed water main and service lines in 2004 to supply reclaimed water to 14 major irrigation water users located in the central and east city area (Leesburg Regional Medical Center, Leesburg Regional Medical Center North, Leesburg Medical Office Park, Lake Point Square, Leesburg High and Skeen Schools, Oak Park Middle School, the new Oak Park elementary school, Mote Morris House, Venetian Gardens, First Baptist Church, Sumter Community College, Lake Square Mall, Leesburg Municipal Airport, and S.R. 500 roadway medians) by late 2006, served by the Canal Street WWF (upon upgrading treatment to public access reuse standards); and
- Begin construction of needed reclaimed water mains and service lines in 2004 to supply reclaimed water to four (4) major irrigation water users located in the south service area (the Legacy development and planned Arlington Ridge, Pruitt property and Windsong developments) served by the Turnpike WWTP until the Canal Street reclaimed water also becomes available for use in the south service area (in 2007).

Approximately 1.0 MGD of reclaimed water was available in 2003 at the Turnpike WWF. Projected wastewater flow rates corresponding to additional growth and development indicate that by 2008, 1.70 MGD of reclaimed water will be available to customers and by 2013, and 2.43 MGD of reclaimed water will be available from this facility (as shown on

Table IV-3). Immediately following the 2006 facility upgrade planned for the Canal Street WWF in FY 2005-2006, approximately 2.48 MGD of reclaimed water (total amount of treated wastewater effluent) will be available from this facility to serve customers. Growth and development projections show that Canal Street WWF will have approximately 2.56 MGD of reclaimed water in 2008 and 2.80 MGD in 2013. Therefore, by the end of 2006 approximately 3.82 MGD of reclaimed water will be available to customers (combined facilities total). This water source (reclaimed water) will be used by the city to offset/reduce the amount of groundwater pumped from the aquifer to meet irrigation water demand needs. This alternate water source should be considered by the SJRWMD in evaluation future city CUP requests and in preparing regional water supply plans. A summary of the projected reclaimed water supply and customer usage associated with the city's implementation of its reclaimed water plan is shown on Table IV-4.

Table IV - 1: City of Leesburg Wastewater Treatment Plants – ~~2003~~ 2001

Waste Water Treatment Plant	Location	Current Demand	Maximum Permitted Capacity	Design Capacity
Canal Street WWTP	608 Canal Street	2.2 MPD	3.5 MPD	3.5 MPD
Turnpike WWTP	State Road 470	1.0 MPD	3.0 MPD	4.5 MPD
Total		3.2 MGD	6.5 MGD	8.0 MGD

Source: City of Leesburg Environmental Services Department –2003 Data.

Table IV - 2: City of Leesburg Existing Sanitary Sewer Customers – ~~2003~~ 2001

Type of User	Within City Limits	Percentage within the City	Outside City Limits	Percentage outside the City
Residential	7,890 connections	73.1 %	2,891 connections	26.9 %
Non-Residential	1,944 connections	97.5 %	50 connections	2.5 %
Total	9,834 connections	76.9 %	2,941 connections	23.1 %

Source: City of Leesburg Environmental Services Department – November 2003 Data.

Table IV - 3: City Canal Street WWTP Facilities Average Daily Flows, Feb. 2000 – 2003 and 10-Year Flow Projections

Year	Turnpike WWTP Facility ADF (in MGD)	Canal Street WWTP Facility ADF (in MGD)
2000*	0.36	2.90
2001*	0.50	2.40
2002*	0.82	2.20
2003*	1.00	2.20
2004	1.04	2.38
2005	1.13	2.42
2006	1.34	2.48
2007	1.52	2.51
2008	1.70	2.56
2009	1.87	2.61
2010	2.06	2.65
2011	2.19	2.70
2012	2.31	2.75
2013	2.43	2.80

Source: City of Leesburg Environmental Services Department – 2003.

* = Denotes Actual (Historic) Facility Data Used.

TABLE VI-4: Projected Reclaimed Water Supply and Customer Usage

YEAR	Total Available Turnpike WWF Reuse Flow (in MGD)	Total Available Canal St. WWF Reuse Flow (in MGD)	Total Available Reuse Production (all facilities combined) (in MGD)	Total Number of Reuse Accounts	Total Projected Reuse Customer Demand @40"/ac/yr (in MGD)
2000	0.36*	0	0.36*	0	0
2001	0.50*	0	0.50*	0	0
2002	0.82*	0	0.82*	0	0
2003	1.00*	0	1.00*	0	0
2004	1.04	0	1.04	190	0.323
2005	1.13	0	1.13	500	0.694
2006	1.34	2.48	3.82	1,725	1.814
2007	1.52	2.51	4.03	2,436	2.149
2008	1.70	2.56	4.26	3,143	2.405
2009	1.87	2.61	4.48	3,850	2.659
2010	2.06	2.65	4.71	4,557	2.917
2011	2.19	2.70	4.89	5,107	3.103
2012	2.31	2.75	5.06	5,657	3.288
2013	2.43	2.80	5.23	6,207	3.475

Notes: * = Indicates actual facility flow data

Balance of reclaimed water not used by customers will be sent to City Land Application Spraysites. This amount of water can be made available for RIBs (Rapid Infiltration Basins) applications in the future, to optimize aquifer withdrawals.

1 = Reuse customer demand from Legacy residential and Arlington Ridge Golf Course and Legacy residential irrigation customers.

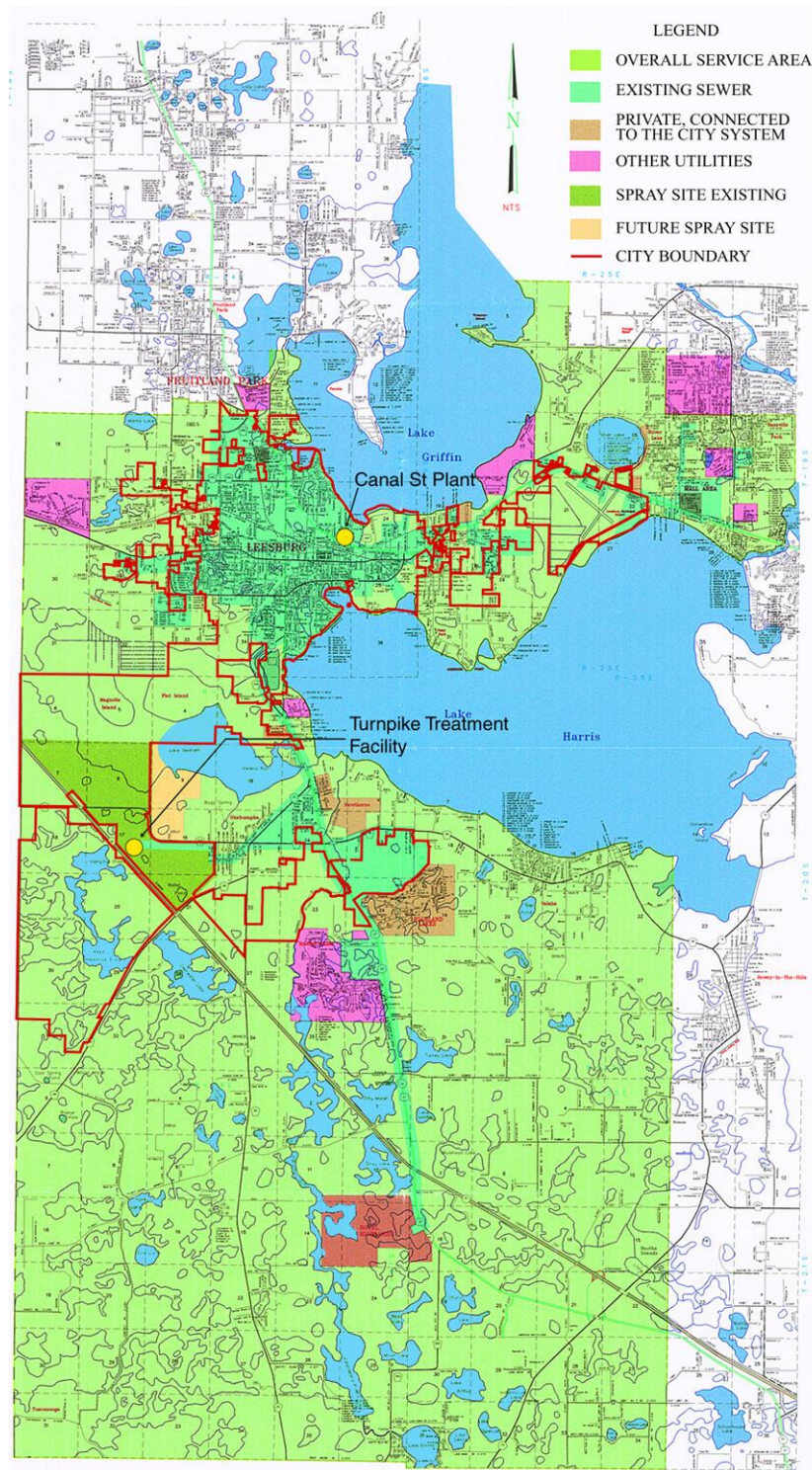
2 = Reuse customer demand from Legacy residential, and Arlington Ridge Golf Course and residential, and Pruitt property residential, commercial and industrial irrigation customers.

3 = Reuse customer demand from Legacy and Windsong residential, Arlington Ridge Golf Course and residential, Pruitt property residential, commercial and industrial irrigation customers, 14 large city East/Central irrigation accounts (Leesburg Regional Medical Center, Leesburg Regional Medical Center North, Leesburg Medical Office Park, Lake Point Square, Leesburg High and Skeen Schools, Oak Park Middle School, the new Oak Park Elementary School, Mote Morris House, Venetian Gardens, First Baptist Church, Sumter Community College, Lake Square Mall, Leesburg Municipal Airport, and S.R. 500 roadway medians).

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IV-12 Amended October 10, 2005 via Ordinance #05-79

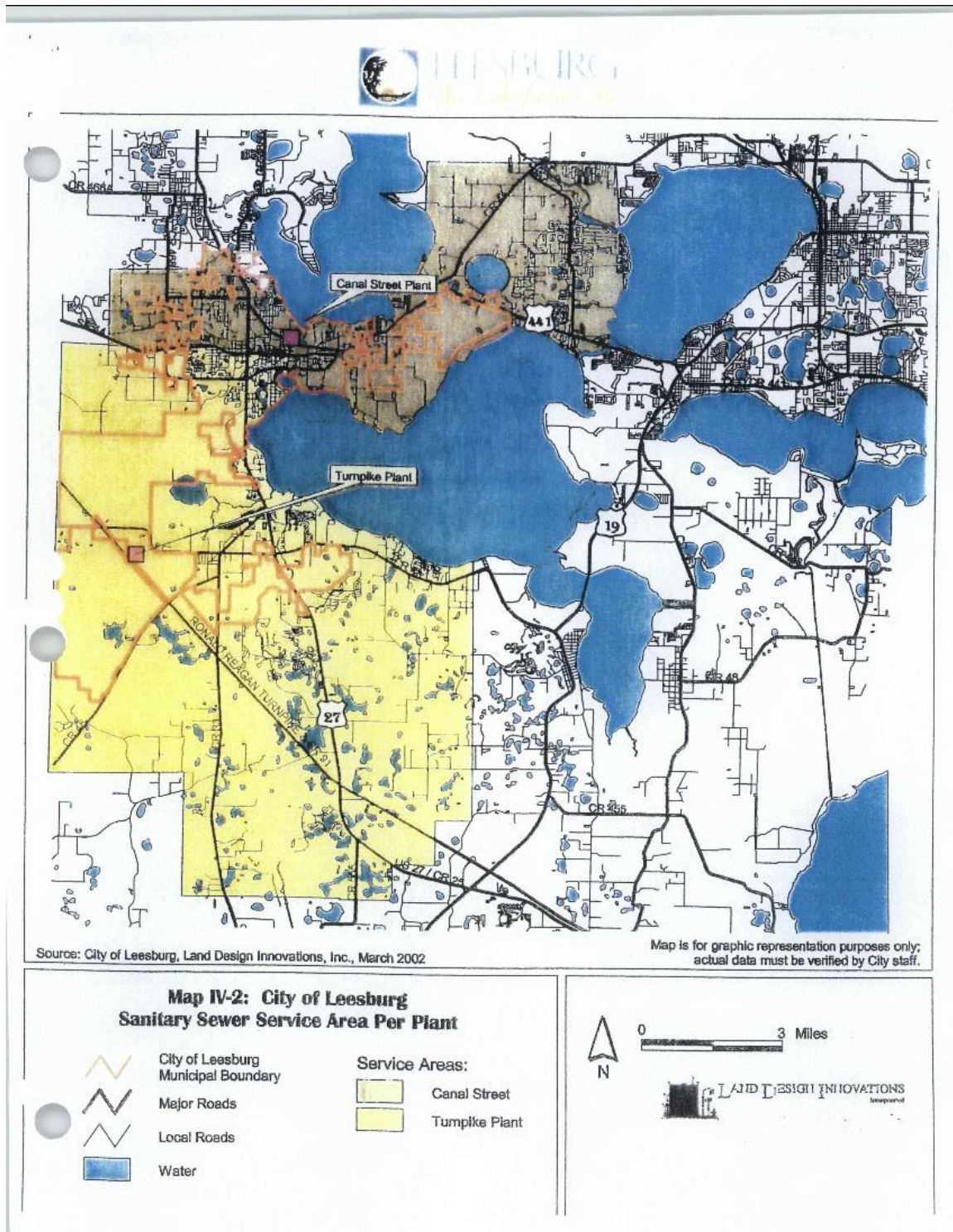
Map IV- 1: Sanitary Sewer Service Areas



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IV-13 Amended October 10, 2005 via Ordinance #05-79

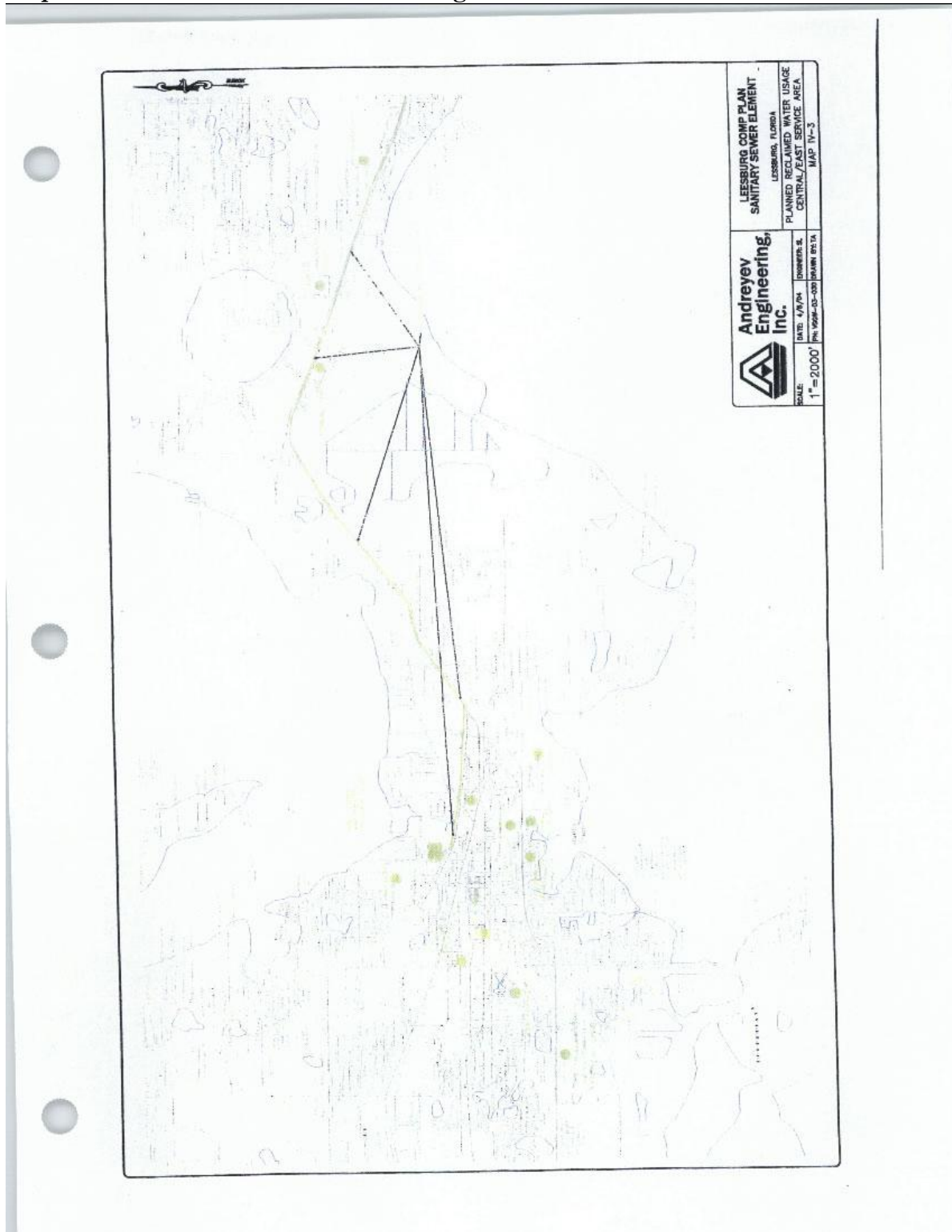
Map IV- 2: City of Leesburg Sanitary Sewer Service Area Per Plant



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IV-14 Amended October 10, 2005 via Ordinance #05-79

Map IV-3: Planned Reclaimed Water Usage - Center/East Service Area



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IV-15 Amended October 10, 2005 via Ordinance #05-79

Map IV-4: Planned Reclaimed Water Usage - South Service Area



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IV-16 Amended October 10, 2005 via Ordinance #05-79

D. GOALS, OBJECTIVES AND POLICIES

GOAL IV-A: To provide an effective system of wastewater collection, treatment, and treated effluent disposal or reuse to meet the needs of all City residents and non-residential establishments within the City of Leesburg service area while protecting the environment and public health.

Objective 1.1: *Existing Wastewater Treatment.* The City shall correct existing deficiencies; ensure that the minimum level of service for sanitary sewer is met, provide a level of treatment that meets the water quality standards for effluent limitations established by the FDEP, and support the continued use of reclaimed water within the City's utility service area for environmentally suitable purposes and to conserve potable water supplies for future generations.

- Policy 1.1.1:** The City's adopted level of service for sanitary sewer treatment shall be 251 gallons per capita per day.
- Policy 1.1.2:** When evaluating collection force main and lift station capacity, the City shall use the following peaking factors based upon the average design flow (ADF): flows to 0.050 MGD ADF use a 3.5 factor; flows 0.050 to 0.250 MGD ADF use a 3.0 factor; and, flows above 0.250 MGD ADF use a factor of 2.5.
- Policy 1.1.3:** The City shall maintain an active sanitary sewer and reclaimed water utilities mapping program and perform an hydraulic analysis of the city system at least annually to prioritize needed improvements and replacements.
- Policy 1.1.4:** The City shall implement the capital improvement schedule to correct existing deficiencies and implement needed improvements in support of the 10-Year Water Facilities Work Plan, and update the schedule annually during the City's annual budget process.
- Policy 1.1.5:** All improvements and/or additions to sanitary sewer and reclaimed water facilities shall be compatible and adequate to meet the adopted level of service standards which conform to all applicable state and county environmental health standards and regulations, including those required by Rule 62-610, F.A.C.
- Policy 1.1.6:** All land use amendments shall require an analysis of the impact of such amendment on the adopted level of service standard and existing sanitary sewer facilities.
- Policy 1.1.7:** The City should plan construction of new sanitary sewer treatment facilities when capacity allocation of existing facilities is at seventy five percent (75%) of available capacity, and should have new facilities ready

for operation when capacity allocation of existing facilities is at ninety percent (90%) of available capacity.

Policy 1.1.8: Maintain a quarterly monitoring program to evaluate wastewater treatment efficiencies and submit quarterly operating reports to the FDEP documenting results, including data relating to average and maximum daily flows.

Policy 1.1.9: Maintain a quarterly groundwater-monitoring program to evaluate groundwater quality and submit the results to FDEP.

Policy 1.1.10: Comply with bond covenants to ensure the maintenance and operations of facilities, and to provide recommendations for system maintenance and improvements.

Policy 1.1.11: Encourage continuing education of operating staff to ensure proficiency with respect to optimization of treatment and disposal processes.

Objective 1.2: *Future Wastewater Treatment.* The City shall reserve sewer capacity and coordinate the extension of facilities and increased capacity for approved and vested developments.

Policy 1.2.1: Regulations for sewer allocation vested rights and the period of vesting will be defined in the City's Code of Ordinances.

Policy 1.2.2: Following a determination of concurrency for sanitary sewer, and to ensure reserved capacity and adequate sanitary sewer facilities are in place with the impact of development, the City shall require payment of applicable sewer impact fees at the issuance of a building permit for in-City projects and prior to authorizing new sanitary sewer service for out-of-City projects.

Policy 1.2.3: The City shall implement the capital improvement schedule to prepare for future development and update the schedule annually during the City's annual budget process.

Objective 1.3: *Maximize Existing Facilities.* The City shall maximize existing sanitary sewer facilities within its service area and shall promote compact efficient growth patterns.

Policy 1.3.1: The City shall require new developments to connect to the central sanitary sewer system where available.

Policy 1.3.2: The Code of Ordinances shall incorporate means and methods to ensure connection to the City's sanitary sewer system, where available, for those properties that lie within the service area. "Available" shall mean within

two hundred (200) feet of a sanitary sewer collection system and accessible by a legally recorded easement or right-of-way.

Policy 1.3.3: When central sanitary sewer is available, septic tanks and package wastewater treatment plants will be disallowed.

Policy 1.3.4: Within the City's sanitary sewer service area, when existing central sanitary sewer service is determined to be unavailable to new development, the City shall require the new development to extend the central sewer system at the developer's expense to service subject property. The City may assist or enter into an up-sizing agreement with the developer at the City's discretion.

Policy 1.3.5: Maintain adequate sanitary sewer impact fees and user rates to ensure funding for new treatment, collection and effluent disposal systems.

Policy 1.3.6: The City shall update the Wastewater Rate Study every five (5) years.

Objective 1.4: ***Septic Tanks.*** The City shall mandate connection to the central sewer system, when available, for existing residences and commercial establishments, which are served by septic systems and are deemed to be detrimental to the health, safety, and welfare of the general public.

Policy 1.4.1: "Available" shall mean within two hundred (200) feet of a sanitary sewer collection system and accessible by a legally recorded easement or right-of-way.

Policy 1.4.2: By 2005, the City shall identify and map those areas within the City's service area which are served by septic systems and prioritize areas requiring central sewer service based on soil suitability, density, and environmental concerns.

Policy 1.4.3: Prioritize and incorporate line extensions into the capital improvement schedule to connect existing septic areas to the central sanitary sewer system. The City shall require the participation of the existing residents and/or developers in the cost of the sewer main line extensions.

Objective 1.5: ***Effluent Disposal.*** The City shall continue to minimize the discharge of wastewater into State and local waters through the continued utilization of its spray fields and construction/expansion of its reclaimed water system, and/or the utilization of rapid infiltration basins (RIBS), and support the continued use of reclaimed water within the City's utility service area for environmentally suitable purposes and to conserve potable water supplies.

- Policy 1.5.1:** Maintain treatment facilities to provide for “unrestricted access” levels of treatment to allow for reuse of reclaimed water for irrigation of landscaped areas, as well as use in allowable industrial applications.
- Policy 1.5.2:** The City shall prohibit the use of potable water for purposes of irrigation when and where reclaimed water becomes available.
- Policy 1.5.3:** The City shall require the installation of dual-lined distribution systems and individually metered connections for all new developments. Connection of the reclaimed system to the potable water system shall be allowed when reclaimed water is not provided until such time as reclaimed water becomes available..
- Policy 1.5.4:** Back up storage and disposal of excess reclaimed water (during wet periods) will be provided by the City’s existing spray fields and/or by the use of RIBS.
- Policy 1.5.5:** The City shall maintain its permit to allow discharge of reclaimed water and/or sprayfield underdrain discharge into the Okahumpka Swamp wetlands.
- Policy 1.5.6:** The City shall maintain a public awareness and education program regarding the use of reclaimed water.
- Policy 1.5.7:** The City shall require the conversion to the use of alternative water sources, including reclaimed water, at sites with existing dual-lined systems and on existing groundwater sources for irrigation when alternative sources becomes available.

Objective 1.6: ***Conservation Of Reclaimed Water Resource.*** On an ongoing basis, minimize the use of potable water from groundwater resources by taking actions to maximize reclaimed water resources through the continued application of existing conservation regulations and practices to as provided for in the policies listed below.

- Policy 1.6.1:** The city shall continue to require that users of reclaimed water follow stated policies pertaining to the efficient operation of reclaimed water systems and conservation of reclaimed water resources.
- Policy 1.6.2:** The SJRWMD has the exclusive authority to regulate consumptive uses of water under Chapter 373, F.S. The city shall adopt regulations to ensure for the efficient operation of the reclaimed water system or for the health or safety of the general public or the customer, regarding the following matters:

- The times of day or night during which the reclaimed water may be used by customers.
- The maximum rate of use of the reclaimed water.
- The right to inspect reclaimed water devices, facilities, and terminate service to reclaimed water system found to be in violation of any city ordinance, regulation or procedure.
- The right to impose the requirement that upon being connected to the city's reclaimed water system, any existing wells on the subject property shall not continue to be used for irrigation and shall be disconnected from the irrigation system (unless otherwise approved by the cognizant permitting agency and the city manager).
- The right to impose the mandatory payment of fees for the installation and usage of reclaimed water systems. Once service is connected, the user shall pay a minimum monthly charge set by resolution of the city commission.
- The right to temporarily discontinue service to any portion of, or the entire, reclaimed water system as deemed necessary by the city.

Policy 1.6.3:

The city manager herein adopts the authority to promulgate procedures and regulations with respect to the following matters, which procedures and regulations shall become effective upon a resolution approving such procedures and regulations being adopted by the city commission:

- Application procedures, forms and requirements, and allowable uses other than irrigation. All uses must be in accordance with applicable DEP regulations.
- Installation requirements, including specification of acceptable materials, devices and regulations to prevent backflow or cross connections with other systems.
- Procedures for enforcement of the ordinances and regulations pertaining to reclaimed water, including procedures for inspection of the customer's system.
- Procedures for the orderly expansion of the reclaimed water system.
- Procedures and regulations for the efficient operation of the reclaimed water system.

Policy 1.6.4: The city shall adopt regulations to ensure for the efficient operation of the reclaimed water system or for the health or safety of the general public or the customer, regarding the following matters:

- The construction, operation, maintenance or property access to facilities/devices which are connected to or which controls a device or system connected to the city's reclaimed water system and which is not in compliance with all provisions of DEP regulations and city regulations and procedures related to reclaimed water.
- The tampering with, work on, alteration of or damage to any city reclaimed water facility is strictly prohibited. The city holds the offending person liable for the cost of all charges attributed to the correction of such tampering and violations of city ordinance, which may include civil and criminal penalties.
- The required use of cross connection control devices and submittal of device compliance test results: prior to connecting a user to the reclaimed water system, the public water supply shall be protected by the installation, at the users expense, of an approved cross connection control assembly.
- The use of reclaimed water: reclaimed water shall not be directed or piped into any residence or building used as a dwelling unit. The right to inspect reclaimed water devices, facilities, and terminate service to reclaimed water system found to be in violation of any city ordinance, regulation or procedure.
- The right to establish schedules to control the use of reclaimed water in order to reduce maximum pressure demands on the system and to regulate the usage of reclaimed water to balance with supply and storage availability.

Policy 1.6.5 The City shall maintain a progressive reclaimed water rate structure to ensure conservation.